25 Jun 1993

TE1AA-A

TESTER, SEMICONDUCTOR

1. GENERAL. This procurement requires a test set for identifying and testing integrated circuits.

2. CLASSIFICATION. Type II, Class 5, Style EP, and Color R in accordance with MIL-T-28800 for shipboard applications.

3. FUNCTIONAL REQUIREMENTS. The test set shall be capable of identifying and testing integrated circuits (ICs) with up to 40 pins, of the following logic families as a minimum: TTL, DTL, RTL, NMOS, CMOS, HTL and HINIL. The test set shall test analog and linear ICs. It shall be capable of testing ICs incircuit and performing functional tests on ICs out-of-circuit.

3.1 Test modes.

3.1.1 Manual. The test shall have controls which will permit the operator to select a test routine by IC part number. The selected test routine shall then test to confirm that the test signals applied to predetermined pins produces an appropriate response on designated pins. At the completion of the test, the tester shall display the test results.

3.1.2 Auto. The test set shall automatically identify a digital IC type and then perform the appropriate test based on internal test routines. At the completion of the test, the tester shall display the test results.

3.2 IC identification. The test set shall be capable of identifying good ICs and returning the manufacturer's part number or a generic part number which is functionally identical to the tested IC. Additionally, the test set shall recognize functional circuit differences such as, but not limited to, those listed below.

a. Expandable inputs
b. Totem-pole outputs
c. Open-collector outputs
d. Open-emitter outputs
e. Open-drain outputs
f. Open-source outputs
g. Tri-state outputs
h. Pull-up outputs

3.3 Display. The display shall be readable at arms length under an ambient light level of 70 footcandles. The display shall be alphanumeric and require a minimal amount of interpretation or use of a reference manual by the operator.

4. GENERAL REQUIREMENTS.

4.1 Power source. MIL-T-28800 nominal and dc internal power source requirements are invoked as detailed below.

4.1.1 Nominal power source. Maximum power consumption: 100W.

4.1.2 DC internal power source. A charger and internal batteries are required. Minimum operating time shall be 8 hours following a maximum recharge time of 16 hours.

4.2 Weight. 10 kg (22 lb) maximum.

4.3 Lithium batteries. Per MIL-T-28800 lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.